

CLAIMS

We claim:

1. A method of tuning an information presentation appliance comprising:
 - receiving user input specifying categories of information to be presented;
 - 5 creating a device description page using a markup language;
 - storing the categories of information in the device description page; and
 - transmitting the device description page with the categories of information

through a network.

10 2. The method of claim 1 wherein the information presentation appliance conforms to a Universal Plug and Play device architecture.

15 3. The method of claim 1 wherein the markup language is text-based.

5. The method of claim 1 wherein an information presented by the information presentation appliance is an audio information.

20 6. The method of claim 1 wherein an information presented by the information presentation appliance is a video information.

7. A method of tuning an information presentation appliance comprising:

receiving a device description page written in a markup language;

parsing the device description page to identify available categories of information;

5 presenting the available categories of information to a user;

receiving user input specifying selected categories of information; and

invoking a deliver function referenced by a service description page to receive an element of information belonging to the selected categories of information.

10 8. The method of claim 7 wherein the information presentation appliance conforms to a Universal Plug and Play control point architecture.

9. The method of claim 7 wherein the markup language is text-based.

15 10. The method of claim 7 wherein an information presented by the information presentation appliance is an audio information.

11. The method of claim 7 wherein an information presented by the information presentation appliance is a video information.

20 12. The method of claim 7 wherein the parsing the device description page to identify the available categories of information comprises:

identifying a service description page pointer to the service description page;

requesting the service description page using the service description page pointer; and

parsing the service description page to identify the available categories of information

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13. The method of claim 12 wherein the parsing the service description page to identify the available categories of information comprises:

identifying a list function pointer to a list function, wherein the list function lists the available categories of information; and

10 invoking the list function to list the available categories of information using the list function pointer.

14. The method of claim 13 wherein the invoking the list function to list the available categories of information comprises:

15 receiving a list of identifiers of the available categories of information; identifying a name function pointer to a name function, wherein the name

function provides names for the available categories of information; and

invoking the name function for each identifier in the list of identifiers.

20 15: An information presentation appliance comprising:

a user input device;

a processing unit for performing steps comprising: creating a device description page written in a markup language and containing categories of information specified by a user through the user input device;

a memory storage for performing steps comprising: storing the device

5 description page; and

a network connection for performing steps comprising: transmitting the device description page.

16. The information presentation appliance of claim 15 wherein the information presentation appliance conforms to a Universal Plug and Play device architecture.

17. The information presentation appliance of claim 15 wherein the information presentation appliance is an electronic picture frame.

18. The information presentation appliance of claim 15 wherein the information presentation appliance is a speaker.

19. The information presentation appliance of claim 15 wherein the information presentation appliance is a decoder device.

20. The information presentation appliance of claim 15 wherein the markup language is text-based.

21. The information presentation appliance of claim 15 wherein the markup language identifies an element with a tag, and wherein the tag is defined in a schema.

22. The information presentation appliance of claim 15 wherein the categories of 5 information in the device description page are identified with extended tags, and wherein the extended tags are defined in an extended schema.

23. An information presentation appliance comprising:

10 a network connection for performing steps comprising: receiving a device description page written in a markup language;

a user input device for performing steps comprising: receiving user input specifying selected categories of information; and

15 a processing unit for performing steps comprising:
parsing the device description page to identify available categories of information; and
invoking a deliver function referenced by a service description page to receive an element of information belonging to the selected categories of information.

24. The information presentation appliance of claim 23 wherein the information

20 presentation appliance conforms to a Universal Plug and Play control point architecture.

25. The information presentation appliance of claim 23 wherein the information presentation appliance is an electronic picture frame.

26. The information presentation appliance of claim 23 wherein the information presentation appliance is a speaker.

5 27. The information presentation appliance of claim 23 wherein the information presentation appliance is a decoder device

28. The information presentation appliance of claim 23 wherein the markup language is text-based.

10 29. The information presentation appliance of claim 23 wherein the available categories of information include the selected categories of information.

15 30. The information presentation appliance of claim 23 wherein the step of parsing the device description page to identify the available categories of information further comprises the steps of:

identifying a service description page pointer to the service description page; requesting the service description page using the service description page pointer; and

20 parsing the service description page to identify the available categories of information

31. The information presentation appliance of claim 30 wherein the step of parsing the service description page to identify the available categories of information further comprises the steps of:

- identifying a list function pointer to a list function, wherein the list function
- 5 lists the available categories of information; and
- invoking the list function to list the available categories of information using the list function pointer.

32. The information presentation appliance of claim 31 wherein the step of invoking the list function to list the available categories of information further comprises the steps of:

- receiving a list of identifiers of the available categories of information;
- identifying a name function pointer to a name function, wherein the name function provides names for the available categories of information; and
- invoking the name function for each identifier in the list of identifiers.

33. A computer-readable medium having computer-executable instructions for tuning an information presentation appliance, the computer-executable instructions performing steps comprising:

- receiving user input specifying categories of information to be presented;
- 20 creating a device description page using a markup language;
- storing the categories of information in the device description page; and
- transmitting the device description page with the categories of information through a network.

34. The computer-readable medium of claim 33 wherein the information presentation appliance conforms to a Universal Plug and Play device architecture.

5 35. The computer-readable medium of claim 33 information presentation appliance is an electronic picture frame.

36. The computer-readable medium of claim 33 wherein the markup language is text-based.

10 37. The computer-readable medium of claim 33 wherein the markup language identifies an element with a tag, and wherein the tag is defined in a schema.

15 38. The computer-readable medium of claim 33 wherein the categories of information in the device description page are identified with extended tags, and wherein the extended tags are defined in an extended schema.

39. A computer-readable medium having computer-executable instructions for tuning an information presentation appliance, the computer-executable instructions performing steps
20 comprising:

receiving a device description page written in a markup language;
parsing the device description page to identify available categories of information;

presenting the available categories of information to a user;
receiving user input specifying selected categories of information; and
invoking a deliver function referenced by a service description page to receive
an element of information belonging to the selected categories of information.

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40. The computer-readable medium of claim 39 wherein the information presentation
appliance conforms to a Universal Plug and Play control point architecture.

41. The computer-readable medium of claim 39 wherein the information presentation
appliance is an electronic picture frame.

42. The computer-readable medium of claim 39 wherein the markup language is text-
based.

15 43. The computer-readable medium of claim 39 wherein the available categories of
information include the selected categories of information.

44. The computer-readable medium of claim 39 wherein the parsing the device description
page to identify the available categories of information comprises:

20 identifying a service description page pointer to the service description page;
requesting the service description page using the service description page
pointer; and

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parsing the service description page to identify the available categories of information

45. The computer-readable medium of claim 44 wherein the parsing the service
5 description page to identify the available categories of information comprises:
identifying a list function pointer to a list function, wherein the list function
lists the available categories of information; and
invoking the list function to list the available categories of information using
the list function pointer.

46. The computer-readable medium of claim 45 wherein the invoking the list function to list the available categories of information comprises:

- receiving a list of identifiers of the available categories of information;
- identifying a name function pointer to a name function, wherein the name function provides names for the available categories of information; and
- invoking the name function for each identifier in the list of identifiers.